

REMARKS

Favorable reconsideration of this application is presently amended and in light of the following discussion is respectfully requested.

Claims 1-44 are pending, Claims 35-38 having been amended, and Claims 43-44 having been added by way of the present amendment. Support for the amendments is found at least at paragraphs [146]-[160] in the publication of the present patent specification. Therefore no new matter is added.

In the outstanding Office Action, the Information Disclosure Statement was objected to; Claims 35, 37 and 38 were objected to as containing informalities; and Claims 35-38 were rejected as being anticipated by Masuda et al. ("Ultra-wideband optical amplification . . .", Electronics Letters, 24th April 1997, Vol. 33, No. 9, pp 753-754).

In reply, it is first noted that although the Examiner has not initialed the PTO Form 1449 submitted with the filing of August 15, 2004, it should be noted that these references were contained in prior applications from which the present application claims priority. This was noted in the Information Disclosure Statement, first box, filed with the present patent application. As Examiners have a duty to review the prior art from these parent patent applications (see MPEP 609.02), it is believed that the present Examiner has complied with this duty by reviewing the prior art references from the parental patent applications. Therefore, separate submissions of copies of the references is not needed for these references to be considered in the present patent application. If the undersigned's understanding is different than that of the Examiner's, the undersigned would appreciate a courtesy call from the Examiner, to explain any differences in understanding with regard to procedure.

Claims 35 and 37 have been amended to provide an express definition for EDFA in these claims.

The objection to Claim 38 is traversed, as this claim already defines a "single mode fiber" as --SMF--.

Before turning to the asserted prior art, a brief review of amended Claim 35 is believed to be in order. Claim 35 is directed to a wavelength division multiplexed light optical amplifier that includes an input port configured to receive wavelength division multiplexed optical signal light. The amplifier includes means for injecting the plurality of pump lights to the optical fiber and Raman amplify the wavelength division multiplex optical signal light. The means for controlling maintains a level deviation between signals of the wavelength division multiplexed optical signal light.

In contrast to amended Claim 35, Masuda provides only one pump light for Raman amplification, namely 1535 nm unpolarized light (Masuda, page 754, col. 1). The "marked LD's" emit light in the 1.48 um optical band and thus provides amplification with the EDF in a fiber laser loop configuration. The pumps also produce 1535-1542 nm self-generated backward light only in the fiber loop configuration. The 1.48 um pump lights and 1535-1542 nm self-generated backward light do not come out of the fiber loop configuration, nor are further injected into the Raman gain medium. Thus, it is respectfully submitted that the pump lights identified in Masuda, do not correspond with the claimed plurality of pump lights applied to an optical fiber so as to Raman amplify wavelength division multiplexed optical signal light.

Furthermore, the outstanding Office Action asserts that Masuda describes the "means for controlling the plurality of pump lights", corresponding to page 754, column 1, lines 2-4 of Masuda. However, the plurality of pump lights relate to a gain characteristic of the EDFA, and not a Raman gain medium. Masuda only shows controlling in the fiber loop configuration a way to maximize gain bandwidth. Masuda does not describe an ability to control a plurality of Raman pumps to maintain wavelength characteristics of output signals

to remain flat (or in some other predetermined shape), regardless of input signal level to the optical amplifier/repeater. Therefore, it is respectfully submitted that Masuda also does not disclose the "means for controlling" as claimed in Claim 35.

Although directed to a wavelength division multiplex optical signal repeater, Claim 37 also patentably is distinguished over Masuda for substantially the same reasons discussed above with regard to Claim 35.

As Claims 36 and 38 depend from Claims 35 and 37 respectively, these claims are also believed to patentably define over the asserted prior art. Likewise, new Claims 43 and 44 are equally believed to patentably define over Masuda.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 35-38 and 43-44, as amended, patentably define over the asserted prior art. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully submitted,

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